

BASF Corporation

US EPA RECORDS CENTER REGION 5



487116

**BASF**

September 16, 1998

**CERTIFIED MAIL -- RETURN RECEIPT REQUESTED**

**Z 355 729 008**

**RECEIVED**

**SEP 21 1998**

**AIR ENFORCEMENT BRANCH,  
U. S. EPA, REGION 5**

Mr. Oladipo Oyinsan  
District Supervisor  
Environmental Response Division  
Michigan Department of Environmental Quality  
38980 Seven Mile Road  
Livonia, Michigan 48152-1006

and

Mr. Duane Heaton  
Remedial Project Manager  
CERCLA Enforcement Section  
Environmental Protection Agency  
230 South Dearborn Street  
Chicago, Illinois 60604

**Z 355 729 006**

Subject: BASF Corporation's Riverview Property  
Summary of the Current Conditions and Findings  
Preliminary Remedial Action Plan  
Civil Action 80-73699

Gentlemen:

In 1984, BASF Corporation entered into a Consent Decree with the State of Michigan and the Environmental Protection Agency (Civil Action 80-73699; 1984) for the BASF-owned property in Riverview, Michigan (a.k.a., Federal Marine Terminal). The Consent Decree required capping of specified areas of the site and groundwater monitoring of designated chemical constituents. Cap construction was completed in 1985 and required monitoring, sampling, and reporting activities conducted as specified by the Consent Decree.

During the 1998 biannual inspection of the property, BASF personnel discovered an area of distressed vegetation at the eastern edge of the northern capped area and discolored water present on the ground surface. These observations lead BASF to begin an assessment of the property.

On July 30, 1998, BASF representatives performed an assessment of groundwater quality and a surficial evaluation of the Riverview property. This letter transmits the findings from that work and BASF plans for further investigation of the property.

**Clay Caps**

As directed by the Consent Decree, BASF continues to conduct and report the results of biannual property inspections to the DEQ and the EPA. During the 1998 biannual inspection, BASF

personnel noticed an area of distressed vegetation and discolored water at the eastern edge of the northern cap as identified on the accompanying drawing.

#### **Assessment of Groundwater Quality**

The Consent Decree specified that during the first five-year phase of groundwater analyses samples would be analyzed for pentachlorophenol, naphthalene, benzo(a)pyrene, PCBs, mercury, and arsenic. BASF submitted analytical results to the DEQ and EPA as required through 1994. At that time (March 1994), BASF requested, as required by the Consent Decree, that DEQ identify the monitoring wells and analytes for the new phase of the monitoring program. No response from DEQ has been forthcoming, and BASF renewed the original program on July 30, 1998.

During the July 1998 sampling event, eleven of the thirteen monitoring wells contained sufficient volumes of water for sampling. BASF sampled these wells and submitted the samples to Shrader Analytical Laboratories in Detroit for analyses. Copies of the laboratory's reports are attached. In summary, the concentrations detected are similar to those reported between 1985 and 1994.

Two wells were not sampled. Well F did not recharge sufficiently to retrieve a valid sample by the end of the sampling event. Well M contained only an oily liquid. BASF previously reported the presence of a similar substance in this well to the DEQ in a letter report dated August 4, 1994.

#### **Investigation**

BASF plans to undertake further investigation of the source of discolored water, the area of distressed vegetation, and the oily liquid in Well M. BASF will continue groundwater monitoring as described in the Consent Decree. Each topic is discussed below.

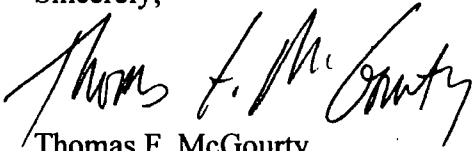
**Groundwater Monitoring** BASF will collect samples annually from each monitoring well that contains a sufficient volume of groundwater. An analytical laboratory will analyze each sample for the six parameters listed in the Consent Decree. BASF will measure the elevation of the groundwater in each well at the time of sampling and report both the elevation and analytical results to the DEQ. Groundwater elevations under the property indicate the water table is higher under the caps than at the site's perimeter. Therefore, the investigation will focus on groundwater gradients and flow directions as well as chemical constituents. Results of the investigation will be used to evaluate the need to collect or divert groundwater to prevent adverse impacts to the environment.

**Distressed Vegetation and Discolored Water** BASF intends to investigate the source of discolored water and the cause of distressed vegetation. An environmental consulting firm will be selected to review available data and prepare a work plan to conduct these investigations.

**Oily Liquids** The investigation also will include a strategy and measures to discover the source and potential impacts associated with the liquid found in Well M.

BASF wishes to receive agencies' concurrence with our proposed approach before proceeding.  
Please call me at (734) 324-6209, or Mr. Jack Lanigan at (734) 324-6219, with questions.

Sincerely,

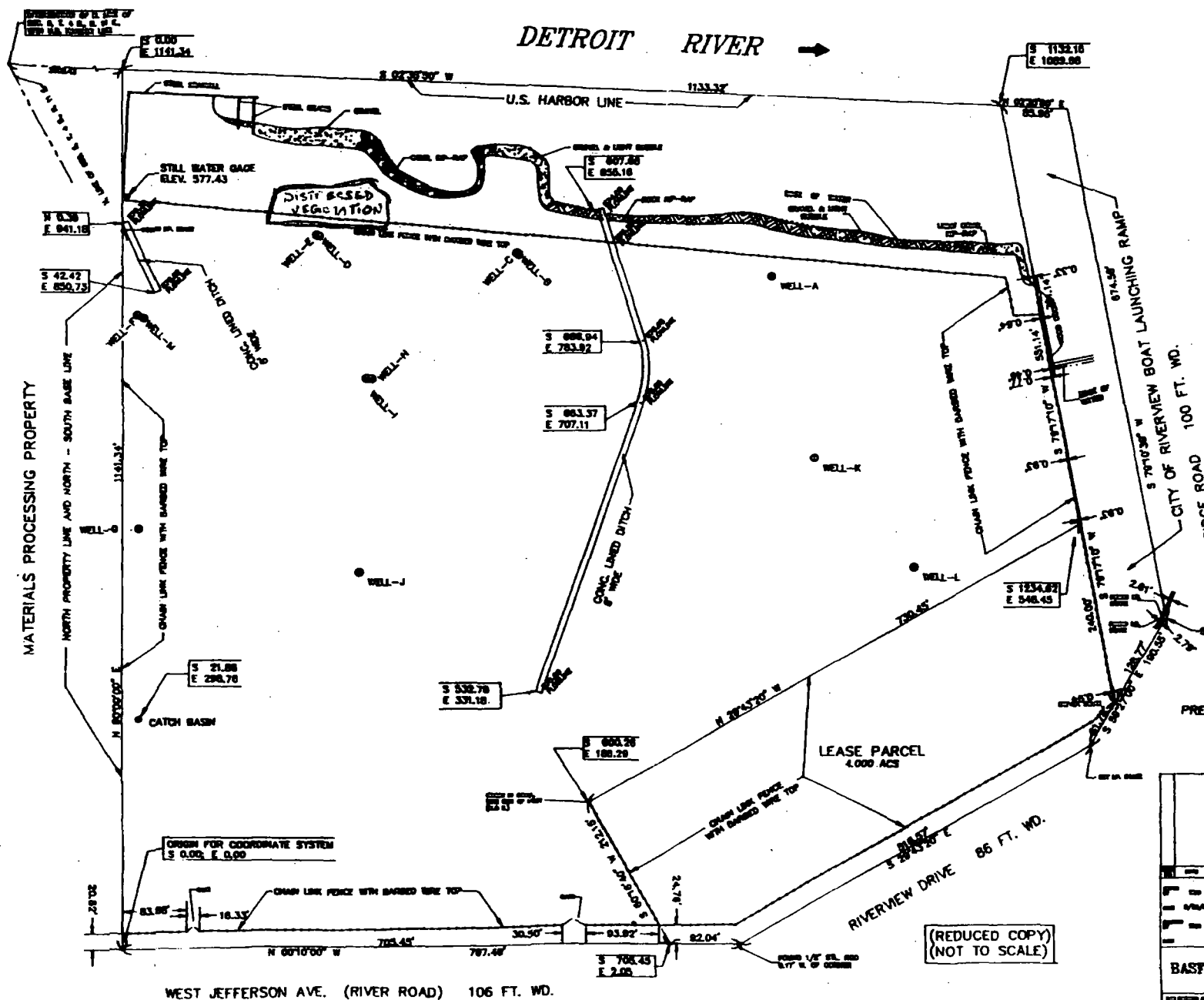


Thomas F. McGourty  
Manager, Ecology Services Department

Attachments

cc: John Byrnes  
John Gerlach  
Pete Greer  
Nancy Martin  
Jack Lanigan

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**MONITORING WELL LOCATION & ELEV.**

Stationing	Easting	North	Description
638.00	888.28	581.20	WELL-A
510.88	888.87	578.84	WELL-B
887.73	901.20	578.82	WELL-C
253.18	923.57	578.80	WELL-D
248.81	824.99	578.18	WELL-E
18.27	822.80	582.02	WELL-F
27.88	818.85	582.32	WELL-G
21.54	548.81	584.22	WELL-H
314.38	738.50	583.24	WELL-I
321.58	737.71	583.30	WELL-J
304.82	487.04	585.85	WELL-K
883.71	833.38	585.75	WELL-L
1020.84	481.81	582.83	WELL-L

**NOTES:-**

**1. BENCH MARK:-**

ARROW ON HYDRANT, EAST SIDE OF WEST JEFFERSON AVE. AT RAILROAD ENTRANCE TO MATERIALS PROCESSING PROPERTY, ELEVATION 877.77, L.G.L.D.

RAILROAD SPIKE IN FIRST UTILITY POLE NORTH OF SOUTH GATE TO BASF PROPERTY, ELEVATION 877.81, L.G.L.D.

**2. ALL ELEVATIONS ARE TO L.G.L.D., 1985.**

**3. ELEVATIONS FOR MONITORING WELLS TAKEN ON TOP OF CAP.**

**4. CO-ORDINATES FOR MONITORING WELLS TAKEN AT CENTER OF CAP.**

**NOTE:-**

THE BEARINGS INDICATED HEREON ARE IN RELATION TO THE BEARING OF THE NORTH PROPERTY LINE (SITE BASE LINE) OF N. 90° 00' 00" E.

**PREPARED BY:-** BOYD W. ARTHURS, P.E. & R.L.S.

2505 W. JEFFERSON AVE.  
P.O. BOX 208  
TRENTON, MICHIGAN 48183

LOCATION SURVEY RIVERVIEW MANAGED WASTE DUMP			
RIVERVIEW, MICH.	1804		
BASF Corporation	52196		



**SHRADER**

*Analytical and Consulting*

**LABORATORIES INC.**

**REPORT OF ANALYTICAL SERVICES**

SUBMITTED TO:

BASF CORPORATION  
1609 BIDDLE AVENUE  
WYANDOTTE, MICHIGAN 48192

ATTN: MR. JACK LANIGAN

We are pleased to provide the enclosed analytical results for the following sample(s).  
Should you have any questions regarding the methods and/or results, please feel free to  
call or write.

Customer sample	:	MONITORING WELLS
Sample description	:	FEDERAL MARINE TERMINAL
Project #	:	H401
Analysis performed	:	EPA METHODS 625, 680, 200.7, 245.1
Parameters analyzed	:	SVOCs, PCBs, As & Hg
Date received	:	July 30, 1998
Date completed	:	August 14, 1998
Report date	:	August 14, 1998

Verified

  
Laura J. Stephens, Environmental Manager

Approved

  
Marianne L. Shrader, Acting QA/QC Officer

Enclosure(s)  
LJS/kjs

# SHRADER ANALYTICAL & CONSULTING LABORATORIES, INC.

## QUANTITATION SUMMARY: As & Hg

BASF CORPORATION

Project # H401

FEDERAL MARINE TERMINAL  
WATER COLLECTED 7/30/98  
August 14, 1998

Units = mg/L

SL #	SAMPLE ID	ARSENIC	D.L.	MERCURY	D.L.
01	Well Able	0.262	0.005	0.0226	0.0002
02	Well Baker	1.01	0.005	0.104	0.0002
03	Well Cat	0.793	0.005	0.0552	0.0002
04	Well Dog	10.8	0.005	1.17	0.0002
05	Well Easy	12.2	0.005	3.06	0.0002
06	Well Go	0.035	0.005	0.0024	0.0002
07	Well How	0.170	0.005	0.0119	0.0002
08	Well Ira	1.01	0.005	0.0213	0.0002
09	Well Jack	0.121	0.005	0.298	0.0002
10	Well Kay	0.059	0.005	0.0197	0.0002
11	Well Lee	0.047	0.005	0.0022	0.0002

D.L. = Detection Limit  
N.D. Not Detected

# SHRADER ANALYTICAL & CONSULTING LABORATORIES, INC.

## QUANTITATION SUMMARY: PCBs

BASF CORPORATION  
Project # H401

FEDERAL MARINE TERMINAL  
August 11, 1998

Units =ug/L

SL #	SAMPLE ID	1016	D.L.	1221	D.L.	1232	D.L.	1242	D.L.	1248	D.L.	1254	D.L.	1260	D.L.
01	Well Able	N.D.	0.5	N.D.	0.3	N.D.	0.4	N.D.	0.3	N.D.	0.3	N.D.	0.5	N.D.	0.7
02	Well Baker	N.D.	2	N.D.	8	N.D.	3	N.D.	1	127	1	N.D.	2	N.D.	3
03	Well Cat	N.D.	1	N.D.	2	N.D.	2	N.D.	0.4	N.D.	0.9	N.D.	1	N.D.	2
04	Well Dog	N.D.	0.3	N.D.	0.5	N.D.	0.4	N.D.	0.3	N.D.	0.5	N.D.	0.8	N.D.	1
05	Well Easy	N.D.	0.5	N.D.	2	N.D.	2	N.D.	0.8	N.D.	1	N.D.	2	N.D.	3
06	Well Go	N.D.	0.1	N.D.	0.1	N.D.	0.2	N.D.	0.1	N.D.	0.2	N.D.	0.5	N.D.	0.7
07	Well How	N.D.	0.2	N.D.	0.1	N.D.	0.3	N.D.	0.1	N.D.	0.4	N.D.	0.4	N.D.	0.5
08	Well Ira	N.D.	0.5	N.D.	0.4	N.D.	0.6	N.D.	0.4	N.D.	0.5	N.D.	0.7	N.D.	1
09	Well Jack	N.D.	0.6	N.D.	1	N.D.	1	N.D.	0.6	N.D.	0.7	N.D.	2	N.D.	2
10	Well Kay	N.D.	0.2	N.D.	0.3	N.D.	0.2	N.D.	0.1	N.D.	0.4	N.D.	0.3	N.D.	0.3
11	Well Lee	N.D.	0.2	N.D.	0.1	N.D.	0.2	N.D.	0.2	N.D.	0.3	N.D.	0.3	N.D.	0.5

D.L. = Detection Limit  
N.D. = Not Detected

## SHRADER LABORATORIES, INC.

Report date : 08-04-1998

## QUANTITATION SUMMARY

DATA file : H40101A

Sample size : 300 ml

Description : WELL ABLE 7/30/98

Sample submitted by : BASF CORPORATION

Analyzed on 08-03-1998 by ROBG Report prepared by STEL

COMPOUND	CONCENTRATION Micrograms/Liter	Det.Limit
PENTACHLOROPHENOL	10	5
BENZO(a) PYRENE	Detected <	1.0
NAPHTHALENE	16	1.0
TOTAL	26.8	



## SHRADER LABORATORIES, INC.

Report date : 08-04-1998

## QUANTITATION SUMMARY

DATA file : H40102A

Sample size : 300 ml

Description : WELL BAKER 7/30/98

Sample submitted by : BASF CORPORATION

Analyzed on 08-03-1998 by ROBG

Report prepared by STEL

COMPOUND	CONCENTRATION Micrograms/Liter	Det.Limit
PENTACHLOROPHENOL	510	20
BENZO (a) PYRENE	110	9
NAPHTHALENE	930	1
TOTAL	1,550	

## SHRADER LABORATORIES, INC.

Report date : 08-04-1998

## QUANTITATION SUMMARY

DATA file : H40103A

Sample size : 300 ml

Description : WELL CAT 7/30/98

Sample submitted by : BASF CORPORATION

Analyzed on 08-03-1998 by ROBG Report prepared by STEL

COMPOUND	CONCENTRATION Micrograms/Liter	Det.Limit
PENTACHLOROPHENOL	230	5
BENZO(a) PYRENE	29	1.0
NAPHTHALENE	190	1
TOTAL	449	

## SHRADER LABORATORIES, INC.

Report date : 08-04-1998

## QUANTITATION SUMMARY

DATA file : H40104A

Sample size : 300 ml

Description : WELL DOG 7/30/98

Sample submitted by : BASF CORPORATION

Analyzed on 08-03-1998 by ROBG Report prepared by STEL

COMPOUND	CONCENTRATION Micrograms/Liter	Det.Limit
PENTACHLOROPHENOL	560	5
BENZO(a) PYRENE	50	1.0
NAPHTHALENE	460	5
TOTAL	1,070	

## SHRADER LABORATORIES, INC.

Report date : 08-04-1998

## QUANTITATION SUMMARY

DATA file : H40105A

Sample size : 300 ml

Description : WELL EASY 7/30/98

Sample submitted by : BASF CORPORATION

Analyzed on 08-03-1998 by ROBG

Report prepared by STEL

COMPOUND	CONCENTRATION Micrograms/Liter	Det.Limit
PENTACHLOROPHENOL	140	7
BENZO (a) PYRENE	25	4
NAPHTHALENE	120	1.0
TOTAL	285	

## SHRADER LABORATORIES, INC.

Report date : 08-03-1998

## QUANTITATION SUMMARY

DATA file : H40106A

Sample size : 300 ml

Description : WELL GO 7/30/98

Sample submitted by : QA/QC

Analyzed on 08-03-1998 by ROBG

Report prepared by ROBG

COMPOUND	CONCENTRATION Micrograms/Liter	Det.Limit
PENTACHLOROPHENOL	N.D.	5
BENZO(a) PYRENE	N.D.	1
NAPHTHALENE	5.6	1.0
N.D. = Not detected    TOTAL	5.60	

## SHRADER LABORATORIES, INC.

Report date : 08-03-1998

## QUANTITATION SUMMARY

DATA file : H40107A

Sample size : 300 ml

Description : WELL HOW 7/30/98

Sample submitted by : BASF CORPORATION

Analyzed on 08-03-1998 by PALR Report prepared by PALR

COMPOUND	CONCENTRATION Micrograms/Liter	Det.Limit
PENTACHLOROPHENOL	N.D.	5
BENZO(a) PYRENE	N.D.	1
NAPHTHALENE	2.1	1.0
N.D. = Not detected	TOTAL	2.10

## SHRADER LABORATORIES, INC.

Report date : 08-04-1998

## QUANTITATION SUMMARY

DATA file : H40108A

Sample size : 300 ml

Description : WELL IRA 7/30/98

Sample submitted by : BASF CORPORATION

Analyzed on 08-03-1998 by ROBG Report prepared by STEL

COMPOUND	CONCENTRATION Micrograms/Liter	Det.Limit
PENTACHLOROPHENOL	Detected <	8
BENZO(a) PYRENE	4.4	3
NAPHTHALENE	2.5	1.0
TOTAL	11.5	

SHRADER LABORATORIES, INC.

Report date : 08-04-1998

QUANTITATION SUMMARY

DATA file : H40109A

Sample size : 300 ml

Description : WELL JACK 7/30/98

Sample submitted by : BASF CORPORATION

Analyzed on 08-03-1998 by ROBG

Report prepared by STEL

ESTIMATED

COMPOUND	CONCENTRATION Micrograms/Liter	Det.Limit
PENTACHLOROPHENOL	N.D.	6
BENZO(a) PYRENE	58	2
NAPHTHALENE	370	1.0

N.D. = Not detected TOTAL 428

One or more surrogates failed QC criteria.

Concentrations are therefore reported as ESTIMATED.



## SHRADER LABORATORIES, INC.

Report date : 08-04-1998

## QUANTITATION SUMMARY

DATA file : H40110A

Sample size : 300 ml

Description : WELL KAY 7/30/98

Sample submitted by : BASF CORPORATION

Analyzed on 08-03-1998 by ROBG

Report prepared by STEL

COMPOUND	CONCENTRATION Micrograms/Liter	Det.Limit
PENTACHLOROPHENOL	7.7	5
BENZO(a)PYRENE	N.D.	1.0
NAPHTHALENE	2.2	1.0
N.D. = Not detected	TOTAL	9.90

## SHRADER LABORATORIES, INC.

Report date : 08-04-1998

## QUANTITATION SUMMARY

DATA file : H40111A

Sample size : 300 ml

Description : WELL LEE 7/30/98

Sample submitted by : BASF CORPORATION

Analyzed on 08-03-1998 by ROBG Report prepared by STEL

COMPOUND	CONCENTRATION Micrograms/Liter	Det.Limit
PENTACHLOROPHENOL	N.D.	5
BENZO (a) PYRENE	N.D.	2
NAPHTHALENE	N.D.	1.0
N.D. = Not detected	TOTAL	0

## CHAIN OF CUSTODY RECORD

Page 1 of 3

Customer: BASF Corporation

Project #: \_\_\_\_\_

Sampling Site: Federal Marine TerminalBy: Jack Long

SL #	Preservative	Added by & Date	Customer ID	Sample Type / Matrix	Sampling Date/Time	Parameters	Comments
01	—		Well Able	Groundwater	7/30/98 3:05	BranP, Naphthalene, Pesticides	
	—		↓	↓	↓	PCBs	
	HNO <sub>3</sub>	shad 7/30/98	↓	↓	↓	Arsenic, Mercury	
02	—		Well Baker		7/30/98 - 9:10	BranP, Naphthalene, Pesticides	
	—		↓	↓	↓	PCBs	
	HNO <sub>3</sub>	shad 7/30/98	↓	↓	↓	Arsenic, Mercury	
03	—		Well Cat		7/30/98 - 9:25	BranP, Naphthalene, Pesticides	
	—		↓	↓	↓	PCBs	
	HNO <sub>3</sub>	shad 7/30/98	↓	↓	↓	Arsenic, Mercury	
04	—		Well Dog		7/30/98 - 9:45	BranP, Naphthalene, Pesticides	
	—		↓	↓	↓	PCBs	
	HNO <sub>3</sub>	shad 7/30/98	↓	↓	↓	Arsenic, Mercury	

Method of shipment: <u>Delivery</u>	Date: <u>7/30/98</u>	Time: <u>4:45</u>	Relinquished by: <u>Jack Long</u>	Date: <u>7/30/98</u>	Time: <u>4:45</u>
Received by: <u>Mr. Shad</u>	Date: <u>7/30/98</u>	Time: <u>4:45</u>	Relinquished by:	Date:	Time:
Received by:	Date:	Time:	Relinquished by:	Date:	Time:

Time cooler opened: \_\_\_\_\_

Temperature of blank: \_\_\_\_\_

Time temperature taken: \_\_\_\_\_

By: \_\_\_\_\_

## CHAIN OF CUSTODY RECORD

page 2 of 3

Customer: BASF Corporation

Project #: \_\_\_\_\_

Sampling Site: Federal Marine TerminalBy: Jack Lavigo

SL #	Preservative	Added by & Date	Customer ID	Sample Type / Matrix	Sampling Date/Time	Parameters	Comments
05	-		Well East	Groundwater	7/30/98 - 10:20	BaP, Naphthalene, P-tachlorophenol	
	-					PCBs	
	HNO <sub>3</sub>	Shed 7/29/98	↓		↓	Arsenic, Mercury	
	<del>-</del>	<del>Shed 7/29/98</del>	<del>Well East</del>	<del>Groundwater</del>	<del>7/30/98 - 10:20</del>	<del>BaP, Naphthalene, P-tachlorophenol</del>	<del></del>
	<del>-</del>	<del>Shed 7/29/98</del>	<del>↓</del>	<del></del>	<del>↓</del>	<del>PCBs</del>	<del></del>
	<del>HNO<sub>3</sub></del>	<del>Shed 7/29/98</del>	<del>↓</del>	<del></del>	<del>↓</del>	<del>Arsenic, Mercury</del>	<del></del>
06	-		Well Gro		7/30/98 - 1:55	BaP, Naphthalene, P-tachlorophenol	
	-		↓		↓	PCBs	
	HNO <sub>3</sub>	Shed 7/29/98	↓		↓	Arsenic, Mercury	
07	-		Well How		7/30/98 - 1:10	BaP, Naphthalene, P-tachlorophenol	
	-		↓			PCBs	
	HNO <sub>3</sub>	Shed 7/29/98	↓			Arsenic, Mercury	

Method of shipment: <u>Delivery</u>	Date: <u>7/30/98</u>	Time: <u>9:45</u>	Relinquished by: <u>John Clayton</u>	Date: <u>7/30/98</u>	Time: <u>9:45</u>
Received by: <u>M. J. Smith</u>	Date: <u>7/30/98</u>	Time: <u>4:45</u>	Relinquished by:	Date:	Time:
Received by:	Date:	Time:	Relinquished by:	Date:	Time:

Time cooler opened: \_\_\_\_\_

Temperature of blank: \_\_\_\_\_

Time temperature taken: \_\_\_\_\_

By: \_\_\_\_\_

## CHAIN OF CUSTODY RECORD

page 3 of 3

Customer: BASF Corporation

Project #: \_\_\_\_\_

Sampling Site: Federal Marine TerminalBy: Jack Lorigo

SL #	Preservative	Added by & Date	Customer ID	Sample Type / Matrix	Sampling Date/Time	Parameters	Comments
08	—		Well Isa	Groundwater	7/30/98 - 1:20	BranP, Naphthalene, Pesticides, PCBs	
	—		↓	↓	↓	Arsenic, Mercury	
09	HNO <sub>3</sub>	Shawn 7/29/98	Well Jack		7/30/98 - 2:15	BranP, Naphthalene, Pesticides, PCBs	
	—		↓	↓	↓	Arsenic, Mercury	
10	HNO <sub>3</sub>	Shawn 7/29/98	Well Kay		7/30/98 - 2:50	BranP, Naphthalene, Pesticides, PCBs	
	—		↓	↓	↓	Arsenic, Mercury	
11	HNO <sub>3</sub>	Shawn 7/29/98	Well Lee		7/30/98 - 2:30	BranP, Naphthalene, Pesticides, PCBs	
	—		↓	↓	↓	Arsenic, Mercury	

Method of shipment: <u>Delivery</u>	Date: <u>7/30/98</u> Time: <u>4:45</u>	Relinquished by: <u>Jack Lorigo</u>	Date: <u>7/30/98</u> Time: <u>4:45</u>
Received by: <u>M. J. Brad</u>	Date: <u>7/30/98</u> Time: <u>4:45</u>	Relinquished by:	Date: Time:
Received by:	Date: Time:	Relinquished by:	Date: Time:

Time cooler opened: \_\_\_\_\_

Temperature of blank: \_\_\_\_\_

Time temperature taken: \_\_\_\_\_

By: \_\_\_\_\_